

been withdrawn from consideration in the present application. As a result of the restriction requirement in the Office Action dated January 27, 2000, Group I (claims 1-15) was elected with traverse. Claim 24 is dependent upon claim 1, and therefore should still be actively considered along with the rest of claims 1-15 and newly added claim 25. Applicants respectfully request the Examiner's consideration of claim 24 in the next Office Action.

#### **SYNOPSIS OF THE PRESENT INVENTION**

The present invention includes film acoustic wave devices mounted on a wafer, where a set of elements form a pattern for each of the respective film acoustic wave devices. The shape of the pattern is correlated to the specific location of where the respective film acoustic wave devices are mounted on the wafer. Since wafers may vary in thickness during a production process as a result of sputtering the piezoelectric thin film onto the wafer, the film acoustic wave devices positioned at various locations of the wafer will therefore have varying wafer thicknesses which result in each of the film acoustic wave devices producing different frequency ranges. Adjusting the wafer thickness at the different locations during production is too expensive. The present invention is directed to a less costly way to avoid the foregoing problem. According to a preferred embodiment of the invention, the varying thickness is compensated by the variance in pattern shapes of the respective film acoustic

wave devices. The variance in pattern shape is dependent upon the specific position of the film acoustic device on the wafer.

**35 U.S.C. §112, SECOND PARAGRAPH REJECTION**

Claims 1-15 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the present invention.

On page 2 of the outstanding Office Action, the Examiner asserts that claims 1-15 are vague and indefinite in that only a single acoustic device is defined, i.e., one upper electrode, so it is unclear how a pattern shape can be varied by position. This argument was also presented in the prior Office Action.

In response to this rejection, applicants direct the Examiner's attention to exemplary Figure 1 of the present application. Figure 1 includes five (5) acoustic wave devices. Taking as an example acoustic wave device 12b, this acoustic wave device includes upper electrode 18a, connecting pattern 19a, and bonding pad 20a. As illustrated, the dimensions of upper electrode 18a, connecting pattern 19a, and bonding pattern 20a are different for acoustic wave device 12b than, for example, acoustic wave device 12c. In particular, with respect to acoustic wave devices 12b and 12c, the connecting pattern 19a is shorter in a horizontal direction in acoustic wave device 12b as compared to

acoustic wave device 12c. Other dimensions are also different, as exemplarily indicated in Figure 1.

Independent claim 1 recites that at least the ground electrode, the piezoelectric thin film, and the at least one upper electrode form a pattern of a film acoustic wave device and the shape of the pattern of the film acoustic wave device is dependent upon the position in which the film acoustic wave device is mounted on the wafer. Applicants presume that the Examiner does not dispute the fact that the ground electrode, the piezoelectric thin film and the at least one upper electrode are structural elements. Applicants also presume that the Examiner does not dispute the fact that the pattern which is made up of these three structural elements is also a structural element or that the shape of the pattern is a structural element. What the Examiner appears to be contesting is that the position of the shape of the pattern is somehow indefinite.

Applicants respectfully submit that "language identifying the physical location suggests a structural element." *Cole v. Kimberly-Clark Corp*, 41 U.S.P.Q. 101 (Fed. Cir. 1996). According, applicants respectfully submit that the position of the pattern is just as much a structural element as the pattern itself, the shape of the pattern, or the ground electrode, piezoelectric thin film, and at least one upper electrode. As a result of the structural nature of the position feature, applicants respectfully submit that this feature is no more

indefinite than any of the other features of independent claim 1. Accordingly, applicants respectfully request reconsideration and withdrawal of the rejection. Applicants further respectfully submit that claims 2-15 and 25-40 are similarly definite.

**35 U.S.C. §102 VALE ET AL./MANG ET AL./**  
**KRISHNASWAMY ET AL./CARSON ET AL. REJECTION**

Claims 1-15 stand rejected under 35 U.S.C. §102(a) as being clearly anticipated by U.S. Patent No. 5,194,836 to Vale et al., U.S. Patent No. 5,160,870 to Carson et al., U.S. Patent No. 5,185,589 to Krishnaswamy et al., and U.S. Patent No. 5,692,279<sup>1</sup> to Mang et al.<sup>2</sup> These rejections, insofar as they pertain to the presently pending claims, are respectfully traversed for the following reasons.

As amended, independent claims 1 limits the structure of the claimed film acoustic wave device by reciting that "the pattern shape of the film acoustic wave device is dependent upon the position at which the film acoustic wave device is mounted on the wafer". Applicants respectfully submit that none of Vale et al., Mang et al., Krishnaswamy et al., and Carson et al. teach or disclose a film acoustic wave device whose pattern shape is at all correlated to

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<sup>1</sup> Applicants continue to note that U.S. Patent No. 5,692,279 to Mang et al. should be considered prior art under 35 U.S.C. §102(e), because it was published after the International filing date of April 24, 1997 of the present application.

the position at which the device is mounted on the substrate or wafer. In fact, each of these references discloses a plurality of devices of identical pattern shapes being mounted at different locations of a substrate. See Column 2, lines 31-33 of Vale et al.; Column 4, lines 30-35 of Mang et al.; Figures 7 and 7A of Krishnaswamy et al.; and Figures 2-3 of Carson et al. As disclosed by the references, the position on the wafer has no effect on the pattern shape each device. Applicants submit that the above references actually teach away from the claimed invention, which requires the pattern shape of the device to be dependent upon the position on the wafer. Independent claim 15 contains a similar limitation. Therefore, Applicants respectfully submit that these references do not anticipate claims 1 and 15 because they do not show every limitation of the claims. Dependent claims 2-14 and 24 are allowable at least for the same reasons as independent claims 1 and 15. Applicants respectfully request reconsideration and withdrawal of this rejection.

Applicants respectfully submit that new claims 26-40 have been added and are patentable for at the reasons set forth above with respect to independent claim 1.

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<sup>2</sup> While the Office Action at page 2 identifies "Many," Applicants assume the Examiner intended U.S. Patent No. 5,692,279 to Mang et al.

**CONCLUSION**

In view of the above amendments and remarks, reconsideration of the various rejections and allowance of claims 1-15 and 24-40 is respectfully requested.

The amendments presented in this response are for the purpose of placing the application in better form for U.S. practice.

Pursuant to the provisions of 37 C.F.R. 1.17 and 1.136(a), Applicants hereby petition for an extension of two (2) months from December 13, 2000 to February 13, 2001 in which to file a response to the outstanding Office Action. The required fee of **\$390.00** is attached hereto.

In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area, to discuss this application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit

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Account No. 02-2448 for any additional fees required under 37 C.F.R. 1.16 or under 37 C.F.R. 1.17; particularly, extension of time fees.

Respectfully submitted,

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